

(No Model.)

3 Sheets—Sheet 1.

C. L. SHOLES, Dec'd.

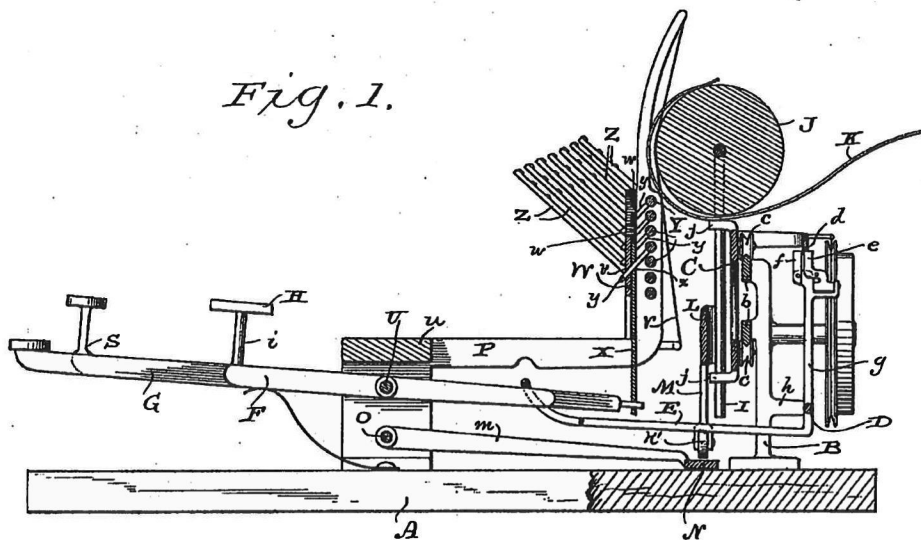
G. B. SHOLES, Executor.

TYPE WRITING MACHINE.

No. 464,902.

Patented Dec. 8, 1891.

Fig. 1.



Witnesses
Geo. W. Young.
N. E. Oliphant

Inventor
C. L. Sholes
By *Stark H. Underwood*
Attorneys

(No Model.)

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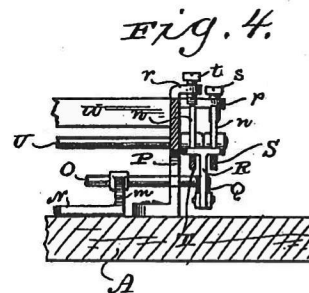
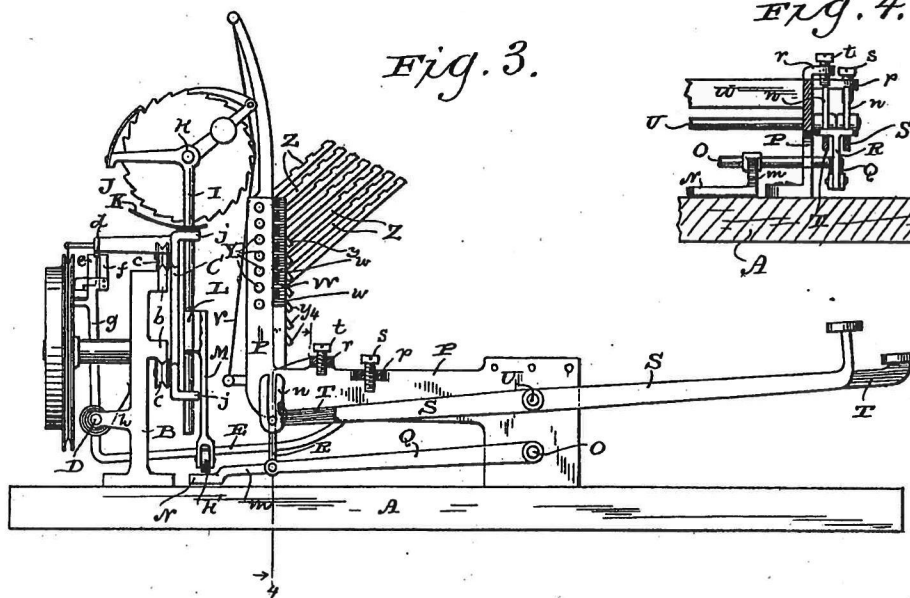
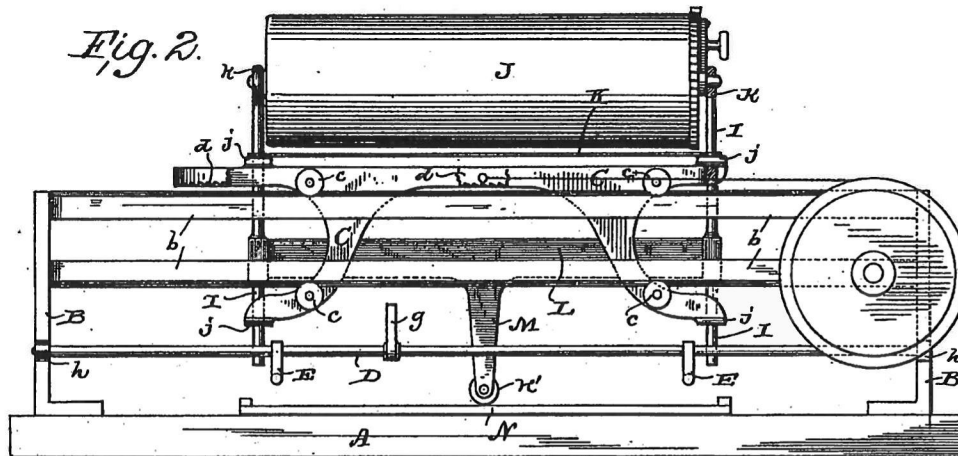
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N. E. Oliphant

Inventor
C. L. Sholes
By *John H. Underwood*
Attorneys

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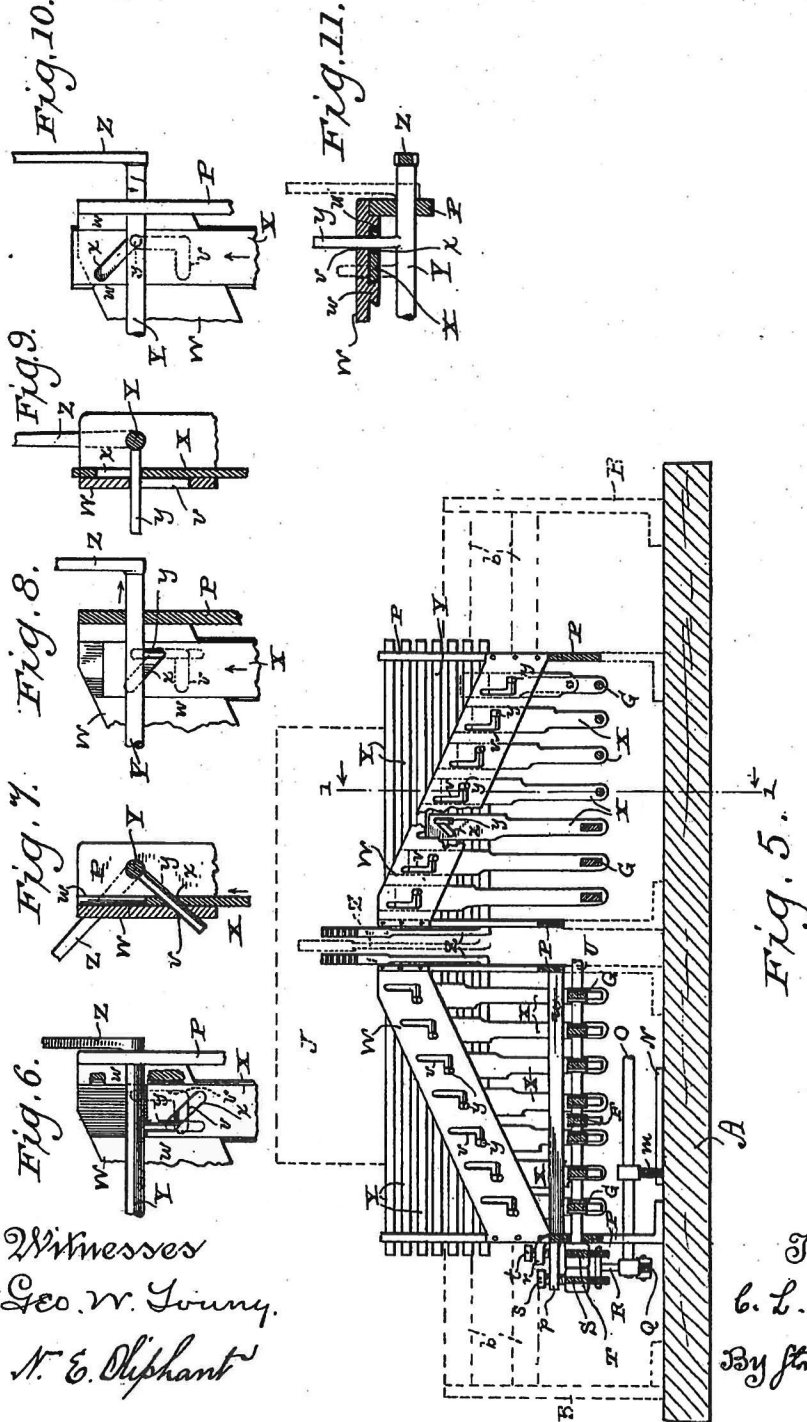
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Witnesses
Geo. W. Young.
N. E. Oliphant

Inventor
C. L. Sholes
By Flint & Woodman
Attorneys

UNITED STATES PATENT OFFICE.

CHRISTOPHER LATHAM SHOLES, OF MILWAUKEE, WISCONSIN; GEORGE B. SHOLES EXECUTOR OF SAID CHRISTOPHER LATHAM SHOLES, DECEASED.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 464,902, dated December 8, 1891.

Application filed January 29, 1889. Serial No. 297,943. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER LATHAM SHOLES, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have
5 invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to type-writing machines; and it consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings and subsequently
10 claimed.

15 In the drawings, Figure 1 represents a vertical longitudinal section of a type-writer constructed according to my invention, the section being taken on line 1 1 of Fig. 5; Fig. 2, a rear elevation illustrating the paper-carriage, certain of the parts being broken away; Fig. 3, a side elevation of the machine with
20 parts broken away; Fig. 4, a detail sectional view taken on line 4 4 of Fig. 3. Fig. 5, a detail front elevation having certain of the parts broken away; Fig. 6, a detail rear view illustrating a type-rod and its actuating mechanism in their normal position; Fig. 7, a vertical transverse section of Fig. 6; Fig. 8, a detail rear view illustrating a type-rod and its
30 actuating mechanism in the position they assume when a lever corresponding therewith has been partially depressed; Fig. 9, a vertical transverse section illustrating a type-rod and its actuating mechanism in the position they assume when the corresponding lever
35 has been fully depressed; Fig. 10, a rear elevation of what is shown by Fig. 9, and Fig. 11 a horizontal section of the parts shown in Fig. 10.

40 Referring by letter to the drawings, A represents the base of my machine, and secured to this base are standards B, united by tracks b for anti-friction rollers c on a spring-controlled carriage C, the latter being provided
45 with a rack d, alternately engaged by pawls e f on the upper end of an arm g, that is fast on a rod D, having bearings h on said standards. Connected to the rod D are the ends of a bail E, that rests on spring-controlled
50 levers F G, the levers F (only one of which is

shown) being provided with vertical stems i, that connect with a spacing-bar H. The carriage and its escapement mechanism above described are not materially different from what are common in some other type-writers, and therefore I shall make no specific claims to the same.

The carriage C is provided with guides j for vertical rods I, provided at their upper ends with bearings k for the journals of a cylindrical and intermittently-rotated platen J, so common in a variety of type-writers now in use that a detailed description of the parts by which it is actuated is not deemed necessary in this application, while at the same
60 time a paper-guide K, also common in this class of devices, is arranged on said rods to move with the platen when the latter is adjusted in a vertical direction, as will be hereinafter more fully described.

70 The rods I are united by a brace L, having a depending bracket M, and to the latter is journaled an anti-friction roller k', that is normally out of contact with a track N, the ends of the latter being connected by brackets m with a rod O, having its bearings in angular standards P, arranged in pairs and secured to the base A. Fast to one end of the rod O is a lever Q, and pivotally connected to this lever is a T-shaped link R, that engages the slotted ends n of levers S T, loose on another rod U, having its bearings in the angular standards P, this construction being best illustrated in Figs. 3 and 4.

85 Although the levers S T have the same fulcrum, it is intended that one of them shall have a greater lift than the other, and to this end I provide the adjacent one of the angular standards P with bearings p r for screws s t, the lower ends of the latter being at different elevations to serve as stops for said levers.

90 When the lever S is actuated, the track N will be brought into contact with the anti-friction roller k' and the platen J will be raised a certain distance; but when the lever T is actuated a greater elevation of said platen will be accomplished, the purpose of this vertical adjustment being hereinafter described. When the platen is raised and held out of its nor-
100

mal position, the anti-friction roller *k'* runs on the track *N* and thereby compensates for the leverage of said platen on its carriage *C*.

An inking-ribbon *V* is arranged to pass the printing-point of the machine; but as there are a variety of ribbon-actuating mechanisms adaptable to said machine I deem it unnecessary to particularly illustrate and describe any one of them in this specification.

The vertical portions of each pair of the angular standards *P* are united by braces *u* and diagonal plates *W*, the latter being provided with a series of cam-slots *v*, each of which extends in a horizontal and vertical direction. The slots, as shown, are L-shaped, as it is essential to the operation of a machine constructed according to my invention that said slots shall extend in both a horizontal and vertical direction.

The rear sides of the diagonal plates *W* are provided with a series of guides *w* for vertical links *X*, that connect with the levers *G*, and are individually provided with diagonal cam-slots *x*, these slots being arranged to cross the horizontal portions of the slots *v* in said diagonal plates when the links are in their normal position, as is best illustrated in Fig. 6.

A series of rods *Y* have their bearings in each pair of the vertical standards *P* and terminate at their inner ends in right-angular extensions *Z*, the latter being the type-bars, and the type-bars in each series are arranged to stand one behind the other, as best illustrated in Figs. 1 and 3. The rods *Y* are provided with fingers *y*, that engage the slots *v* in the diagonal plates *W* and vertical links *X*, whereby an upward movement of any one of the latter will cause its accompanying rod to move horizontally and then partially rotate in its bearings to bring its angular extension or type-bar *Z* to the printing-point, as will be hereinafter more fully described with particular reference to the enlarged detail views, Figs. 6 to 11, inclusive.

As shown by Figs. 6 and 7, the parts are in their normal position, the finger *y* on the rod *Y* being at the highest point in the slot *x* in the link *X*. Now by a depression of the corresponding lever *G* the link *X* will be moved up and its slot *x* will push on the finger *y* to thereby impart a horizontal sliding movement to the rod *Y*, this movement being for a distance equal to the horizontal portion of slot *v* in the adjacent diagonal plate *W*. By the time this horizontal sliding movement of the rod *Y* is effected the finger *y* will be at the lowest point of the slot *x* in the link *X* and in the vertical portion of the slot *v* in the plate, as illustrated by Fig. 8. Now the continued upward movement of the link *X* will draw on the finger *y* and cause it to move in the vertical portion of the slot *v* in the plate *W*, whereby the rod *Y* is partially rotated in its bearings, and thus the angular extension *Z* or type-bar on said rod is brought to the printing-point.

In the machine shown in the drawings each

type-bar *Z* is provided with three characters arranged at suitable intervals apart, and as there is a difference in the length of all the type-bars in a series each one thereof necessarily describes a separate arc when moved toward the printing-point.

When the platen *J* is in its normal position with relation to the carriage *C*, the lower characters on the type-bars *Z* will strike the printing-point; but if the lever *S* be depressed and held down the said platen will be elevated to bring the printing-point in position with relation to the middle characters on said type-bars, while a depression on the lever *T* will bring said printing-point in position to be struck by the upper series of characters, the actuating-levers *G* being provided with indicator-buttons, as is common in machines belonging to the class to which my invention relates.

The number of characters on the type-bars may be multiplied so that more than three rows of such characters will be presented, and in such an instance the platen would necessarily be capable of more adjustments at right angles to the travel of its carriage than has been shown and described.

By the construction above described I provide a type-writer of practical character wherein there is a positive adjustment and action of the type-bars and consequent perfect alignment of the printed characters, while at the same time the result of the work is always in sight of the operator. Both of these features are of great importance, because more or less frequent adjustments of the type-bars to preserve a good alignment is obviated and the lifting of the paper-carriage to view the work in progress is avoided, thereby effecting a saving in time and annoyance to the operator.

Another advantage of my machine lies in the fact that there are no delicate mechanisms, and consequently said machine is not liable to get out of order from hard usage.

In a divisional application, Serial No. 401,493, is claimed the mechanism for actuating the type-levers and complementary parts. Hence I make no claim to said mechanism in this specification.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a type-writer, the combination of a reciprocating carriage, a platen-frame loosely mounted thereon and provided with a depending portion, a lifting-frame for contact with the depending portion of the platen-frame, and a lever mechanism for actuating the lifting-frame, substantially as set forth.

2. In a type-writer, the combination of a reciprocating carriage, a platen-frame loosely mounted thereon and provided with a depending portion, a lifting-frame for contact with the depending portion of the platen-frame, a lever connected to the lifting-frame, a T-coupling pivoted to the lever, and slotted

levers arranged to engage said coupling, substantially as set forth.

3. In a type-writer, the combination of a reciprocating carriage, a platen-frame loosely
5 mounted thereon and provided with a depending portion, a lifting-frame for contact with the depending portion of the platen-frame, actuating-levers connected to the lifting-frame, and stops for said levers, arranged
10 at different elevations, substantially as set forth.

4. In a type-writer, the combination of a reciprocating carriage, a platen-frame loosely

mounted thereon, an anti-friction roller suspended from said frame, a track for the roller, 15 and a lever mechanism for lifting the track, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wis- 20
consin, in the presence of two witnesses.

CHRISTOPHER LATHAM SHOLES.

Witnesses:

N. E. OLIPHANT,

DEAN R. GILMORE.